

CLAIMS

1. Microporous filter plate to be used in a suction drier, particularly in a capillary filter, the filter plate of which contains a membrane with a mean pore size of
5 about 1 micrometer, a substrate, whereon the membrane is positioned, and a recessed area in the interior of the filter plate with cavities for a filtrate and for a backwash liquid, and also provided with at least one outlet or inlet for the filtrate and for the backwash liquid outlet/inlet as well as with mounting holes or hubs for attaching the filter plate to the suction drier, **characterized** in that the
10 recessed area in the interior of the filter plate is provided with supporting elements, in which the ratio between the longest dimension and the shortest dimension is in maximum 1.5 in the cross-section parallel to the filtration surface of the filter plate, for allowing liquid to flow essentially simultaneously and easily in all directions and for the structure of the filter plate being durable
15 for stresses based on pressure peaks.
2. Filter plate according to the claim 1, **characterized** in that the supporting elements in the recessed area contain 10 to 50 %, advantageously 15 to 30 %, of the total area of the recessed area.
20
3. Filter plate according to the claim 1 or 2, **characterized** in that the supporting elements are so positioned, that the distance between the supporting elements is maximum 75 millimeter from an edge of a supporting element to an edge of another supporting element.
25
4. Filter plate according to any of the preceding claims, **characterized** in that the supporting element has a curvature shape.
5. Filter plate according to any of the preceding claims, **characterized** in that
30 the supporting element is a circular button in shape.

6. Filter plate according to any of the preceding claims 1 to 4, **characterized** in that the supporting element is of an angular shape.
7. Filter plate according to the claims 6, **characterized** in that the supporting
5 element is a square in shape.
8. Filter plate according to the claim 6, **characterized** in that the supporting element is a triangle in shape.
- 10 9. Filter plate according to the claim 6, **characterized** in that the supporting element is a hexagon in shape.
10. Filter plate according to any of the preceding claims, **characterized** in that the supporting element is part of the substrate.
- 15 11. Filter plate according to any of the preceding claims, **characterized** in that the mean pore size in the substrate is between 5 and 90 micrometer, preferably between 10 and 60 micrometer.
- 20 12. Filter plate according to any of the preceding claims, **characterized** in that the porosity range in the substrate is 25 – 80 %, preferably 40-50 %, of the total volume of the substrate.
13. Filter plate according to any of the preceding claims, **characterized** in that
25 the membrane and the substrate is made of the same material.
14. Filter plate according to any of the preceding claims 1 to 12, **characterized** in that the membrane and the substrate is made of different materials.
- 30 15. Filter plate according to any of the preceding claims, **characterized** in that at least one ceramic material is used for manufacturing the filter plate.

16. Filter plate according to any of the preceding claims 1 to 14, **characterized** in that at least one sintered metal is used for manufacturing the filter plate.

17. Filter plate according to any of the preceding claims 1 to 14, **characterized**
5 in that at least one plastics material is used for manufacturing the filter plate.

18. Filter plate according to any of the preceding claims 1 to 14, **characterized** in that at least one carbon based material is used for manufacturing the filter plate.